

# Kansas

---

Adequacy of Prenatal Care  
Utilization Index  
Kansas, 2002

## Research Summary

---

**Center for Health and Environmental Statistics**  
**Kansas Department of Health and Environment**

Curtis State Office Building – 1000 SW Jackson, Topeka, KS, 66612-1354

<http://www.kdhe.state.ks.us/ches/>

November 2003

This Research Summary Was Prepared By:

Kansas Department of Health and Environment  
Roderick L. Bremby, Secretary

Center for Health and Environmental Statistics  
Lorne A. Phillips, Ph.D., Director and State Registrar

Office of Health Care Information  
Elizabeth W. Saadi, Ph.D, Director

Prepared by: Karen Sommer, M.A.

Edited by: Greg Crawford, B.A.

Data for this report were collected by:

Office of Vital Statistics  
Gabriel Faimon, M.P.A., Director

This summary was prepared in consultation with the:

Bureau For Children, Youth and Families

# **Adequacy of Prenatal Care Utilization Index**

The Kansas Department of Health and Environment (KDHE) annually publishes an Adequacy of Prenatal Care Utilization (APNCU) Index, utilizing information readily available on the Kansas birth certificate (number of prenatal care visits, month prenatal care began, and gestational length of pregnancy). The APNCU Index combines information on the adequacy of initiation of prenatal care and the adequacy of received services to characterize adequacy of pregnancy-related health services provided to an expectant mother between conception and delivery. Prenatal care has long been endorsed as a major means to identify and reduce the risks of bearing infants who are low birth weight, are stillborn, or die within the first year of life. Therefore, the APNCU categorizes care as inadequate, intermediate, adequate or adequate plus in an attempt to measure progress toward reducing such risks. The index does not assess quality of the prenatal care that is delivered, only its utilization.

## **Contents**

Definitions

Chart

Adequacy of Prenatal Care Utilization Index, Kansas, 2002

Tables

Adequacy of Prenatal Care Utilization Index by County of Residence, Kansas, 2002

Number and Percent of Live Births by Birth Weight by Adequacy of Prenatal Care Utilization Index, Kansas, 2002

Number and Percent of Live Births by Race and Hispanic Origin by Adequacy of Prenatal Care Utilization Index, Kansas, 2002

# KANSAS ADEQUACY OF PRENATAL CARE UTILIZATION (APNCU) INDEX

## I. Month prenatal care began (Adequacy of Initiation of Prenatal Care)

Adequate Plus: 1<sup>st</sup> or 2<sup>nd</sup> month

Adequate: 3<sup>rd</sup> or 4<sup>th</sup> month

Intermediate: 5<sup>th</sup> or 6<sup>th</sup> month

Inadequate: 7<sup>th</sup> month or later, or no prenatal care

## II. Proportion of the number of visits recommended by the American College of Obstetricians and Gynecologists (ACOG) received from the time prenatal care began until delivery (Adequacy of Received Services)

Adequate Plus: 110% or more

Adequate: 80% - 109%

Intermediate: 50% - 79%

Inadequate: less than 50%

## III. Summary Adequacy of Prenatal Care Utilization Index

Adequate Plus: Prenatal care begun by the 4<sup>th</sup> month and 110% or more of recommended visits received

Adequate: Prenatal care begun by the 4<sup>th</sup> month and 80% - 109% of recommended visits received

Intermediate: Prenatal care begun by the 4<sup>th</sup> month and 50% - 79% of recommended visits received

Inadequate: Prenatal care begun after the 4<sup>th</sup> month or less than 50% of recommended visits received

Adequacy of Prenatal Care Utilization Index Matrix

Adequacy of Initiation	7-9 Month	5-6 Month	3-4 Month	1-2 Month
	Inadequate	Inadequate	Intermediate	Adequate
	Inadequate	Inadequate	Intermediate	Adequate
	Inadequate	Inadequate	Intermediate	Adequate
Adequacy of Received Services				
Under 50% 50-79% 80-109% 110+%				
Summary Index				
Inadequate				
Intermediate				
Adequate				
Adequate Plus				

**NOTE:** The APNCU Index requires the use of the following data elements reported on the live birth certificate: number of prenatal care visits, month prenatal care began, and gestational length of pregnancy.

**APNCU Reference:** Kotelchuck M. An evaluation of the Kessner Adequacy of Prenatal Care Index and a proposed Adequacy of Prenatal Care Utilization Index. *American Journal of Public Health*, 1994;84:1414-1420.

**Source:** Children & Families Section, Bureau for Children, Youth, and Families, Kansas Department of Health & Environment, 785-296-1306

Office of Health Care Information, Center for Health & Environmental Statistics, Kansas Department of Health & Environment, 785-296-5644

This product can be found on the Worldwide Web at: <http://www.kdhe.state.ks.us/ches/>

## Adequacy of Prenatal Care Utilization Index

### Kansas Residents\*, 2002

Adequacy of Initiation	7-9 Month	312	137	280	309
	5-6 Month	75	295	604	904
	3-4 Month	203	1,183	4,683	2,456
	1-2 Month	253	3,035	16,780	7,297
		Under 50%	50-79%	80-109%	110+%
		Adequacy of Received Services			

#### Summary Index

- Inadequate
- Intermediate
- Adequate
- Adequate Plus

\*Includes only the 38,806 Kansas resident live births for which number of prenatal visits and month care began were reported on the the birth certificate.

Adequacy of Prenatal Care Utilization (APNCU) Index  
By County Of Residence  
Kansas, 2002

County of Residence	Live Births*	APNCU Category**								Not Stated
		Adequate Plus		Adequate		Intermediate		Inadequate		
		Number	Percent	Number	Percent	Number	Percent	Number	Percent	
Kansas.....	38,806	9,753	25.5	21,463	56.1	4,218	11.0	3,372	8.8	532
Allen.....	158	65	41.4	60	38.2	20	12.7	13	8.3	1
Anderson.....	100	27	27.0	54	54.0	8	8.0	11	11.0	0
Atchison.....	213	73	34.3	103	48.4	18	8.4	19	8.9	0
Barber.....	39	6	15.4	26	66.7	4	10.2	3	7.7	0
Barton.....	345	68	20.4	183	55.0	61	18.3	33	9.9	12
Bourbon.....	202	112	55.5	74	38.5	11	5.7	5	2.6	10
Brown.....	137	38	28.6	79	59.4	10	7.5	10	7.5	4
Butler.....	719	152	21.2	464	65.3	56	7.9	47	6.6	8
Chase.....	31	7	22.6	20	64.5	3	9.7	1	3.2	0
Chautauqua.....	37	8	21.6	17	46.0	7	18.9	5	13.5	0
Cherokee.....	303	66	22.1	163	54.7	40	13.4	34	11.4	5
Cheyenne.....	23	4	17.4	15	65.2	2	8.7	2	8.7	0
Clark.....	21	4	19.1	10	47.6	4	19.0	3	14.3	0
Clay.....	97	27	27.8	47	48.5	15	15.5	8	8.2	0
Cloud.....	116	35	30.2	57	49.1	11	9.5	13	11.2	0
Coffey.....	106	27	25.7	57	54.3	8	7.6	14	13.3	1
Comanche.....	15	6	40.0	7	46.7	2	13.3	0	0.0	0
Cowley.....	478	160	33.4	238	49.9	40	8.4	40	8.4	1
Crawford.....	500	201	40.9	231	47.0	39	7.9	29	5.9	8
Decatur.....	25	11	45.8	11	45.8	0	0.0	3	12.5	1
Dickinson.....	193	67	35.1	91	47.6	13	6.8	22	11.5	2
Doniphan.....	83	18	22.2	60	74.1	2	2.5	3	3.7	2
Douglas.....	1,157	396	35.8	519	46.9	146	13.2	96	8.7	51
Edwards.....	39	4	10.3	21	53.8	6	15.4	8	20.5	0
Elk.....	35	6	17.2	23	67.6	4	11.8	2	5.9	1
Ellis.....	351	42	12.0	210	59.8	79	22.5	20	5.7	0
Ellsworth.....	44	12	27.3	24	54.5	5	11.4	3	6.8	0
Finney.....	774	201	26.4	296	38.8	128	16.8	149	19.6	12
Ford.....	613	113	18.9	244	40.7	117	19.5	139	23.2	14
Franklin.....	366	115	32.1	187	52.2	26	7.3	38	10.6	8
Geary.....	580	109	18.8	223	38.5	165	28.4	83	14.3	0
Gove.....	23	5	21.8	12	52.2	5	21.7	1	4.3	0
Graham.....	21	5	25.0	6	30.0	6	30.0	4	20.0	1
Grant.....	155	34	22.1	84	54.5	22	14.3	15	9.7	1
Gray.....	91	11	12.2	35	38.4	19	21.1	26	28.9	1
Greeley.....	22	4	18.2	11	50.0	5	22.7	2	9.1	0
Greenwood.....	84	22	26.5	54	65.1	4	4.7	4	4.8	1
Hamilton.....	48	10	21.3	23	48.0	4	8.5	11	23.4	1
Harper.....	72	18	25.0	47	65.3	2	2.8	5	6.9	0
Harvey.....	444	148	33.4	230	51.9	23	5.2	43	9.7	1
Haskell.....	67	15	22.4	27	40.3	8	11.9	17	25.4	0
Hodgeman.....	21	5	23.8	7	33.3	3	14.3	6	28.6	0
Jackson.....	162	54	34.2	89	55.0	13	8.2	6	3.8	4
Jefferson.....	200	59	29.6	106	53.3	23	11.6	12	6.0	1
Jewell.....	20	6	30.0	12	60.0	2	10.0	0	0.0	0
Johnson.....	7,193	2168	30.4	4322	60.5	410	5.7	293	4.1	51
Kearny.....	65	12	18.8	30	46.1	15	23.4	8	12.5	1
Kingman.....	94	25	26.9	61	65.6	3	3.2	5	5.4	1
Kiowa.....	38	6	15.8	22	57.9	7	18.4	3	7.9	0
Labette.....	287	94	32.7	142	49.8	30	10.5	21	7.4	2
Lane.....	17	4	23.5	9	53.0	1	5.9	3	17.6	0
Leavenworth.....	917	286	31.5	495	54.5	87	9.6	49	5.4	9
Lincoln.....	41	7	17.1	24	58.5	4	9.8	6	14.6	0
Linn.....	100	36	37.1	57	58.8	5	5.2	2	2.1	3
Logan.....	36	9	25.0	15	41.7	7	19.4	5	13.9	0

Adequacy of Prenatal Care Utilization (APNCU) Index  
By County Of Residence  
Kansas, 2002

County of Residence	Live Births*	APNCU Category**								Not Stated
		Adequate Plus		Adequate		Intermediate		Inadequate		
		Number	Percent	Number	Percent	Number	Percent	Number	Percent	
Lyon.....	508	172	34.4	251	50.2	27	5.4	58	11.6	8
Marion.....	122	37	30.3	65	53.3	11	9.0	9	7.4	0
Marshall.....	103	27	26.5	41	40.2	25	24.5	10	9.8	1
McPherson.....	342	85	25.0	199	58.5	35	10.3	23	6.8	2
Meade.....	48	8	18.2	23	52.3	8	18.2	9	18.7	4
Miami.....	356	104	29.2	210	59.0	27	7.6	15	4.2	0
Mitchell.....	71	20	28.2	42	59.2	3	4.2	6	8.4	0
Montgomery.....	471	177	39.4	225	50.1	36	8.0	33	7.3	22
Morris.....	45	6	13.6	26	59.1	9	20.5	4	9.1	1
Morton.....	53	10	21.3	24	51.1	9	19.1	10	18.8	6
Nemaha.....	124	18	14.8	79	64.8	20	16.4	7	5.7	2
Neosho.....	199	85	42.9	86	43.4	10	5.1	18	9.1	1
Ness.....	31	5	16.1	17	54.8	7	22.6	2	6.5	0
Norton.....	60	7	11.9	30	50.8	20	33.9	3	5.1	1
Osage.....	201	61	30.3	114	56.7	14	7.0	12	6.0	0
Osborne.....	38	10	26.3	19	50.0	7	18.4	2	5.3	0
Ottawa.....	65	21	32.3	34	52.3	7	10.8	3	4.6	0
Pawnee.....	64	8	13.1	36	56.2	14	23.0	6	9.8	3
Phillips.....	66	13	19.7	33	50.0	13	19.7	7	10.6	0
Pottawatomie.....	261	73	29.2	134	53.6	35	14.0	19	7.6	11
Pratt.....	124	21	16.9	76	61.3	12	9.7	15	12.1	0
Rawlins.....	20	3	15.0	9	45.0	5	25.0	3	15.0	0
Reno.....	838	188	22.5	478	57.1	87	10.4	85	10.2	4
Republic.....	50	13	26.0	31	62.0	4	8.0	2	4.0	0
Rice.....	117	15	12.8	67	57.3	21	17.9	14	12.0	0
Riley.....	945	196	20.7	391	41.4	294	31.1	64	6.8	0
Rooks.....	56	7	12.5	32	57.1	8	14.3	9	16.1	0
Rush.....	39	10	26.3	18	47.4	9	23.7	2	5.3	1
Russell.....	58	11	19.0	30	51.7	12	20.7	5	8.6	0
Saline.....	750	211	28.2	395	52.9	89	11.9	55	7.4	3
Scott.....	70	18	25.7	25	35.7	8	11.4	19	27.2	0
Sedgwick.....	7,409	1085	15.0	5006	69.0	720	9.9	598	8.2	153
Seward.....	496	79	17.1	222	48.1	44	9.5	151	32.7	34
Shawnee.....	2,501	773	31.1	1351	54.3	205	8.2	172	6.9	12
Sheridan.....	26	6	24.0	11	44.0	8	32.0	1	4.0	1
Sherman.....	78	28	35.9	31	39.7	14	18.0	5	6.4	0
Smith.....	29	8	27.6	19	65.5	0	0.0	2	6.9	0
Stafford.....	44	6	14.3	24	54.6	10	23.8	4	9.5	2
Stanton.....	33	12	37.5	16	50.0	2	6.0	3	9.4	1
Stevens.....	81	21	26.6	31	39.2	14	17.7	15	19.0	2
Sumner.....	338	76	22.7	213	63.6	31	9.3	18	5.4	3
Thomas.....	108	24	22.2	61	56.5	14	13.0	9	8.3	0
Trego.....	31	5	16.1	17	54.9	8	25.8	1	3.2	0
Wabaunsee.....	72	14	19.5	38	53.5	14	19.7	6	8.5	1
Wallace.....	14	3	21.4	8	57.2	2	14.3	1	7.1	0
Washington.....	56	23	41.8	23	41.8	5	9.1	5	9.1	1
Wichita.....	33	7	22.6	17	54.8	5	16.1	4	12.9	2
Wilson.....	120	46	39.7	49	42.2	11	9.5	14	12.1	4
Woodson.....	37	14	37.9	13	35.1	6	16.2	4	10.8	0
Wyandotte.....	2,887	660	22.8	1339	46.8	461	16.1	427	14.9	27

\*Includes only Kansas resident live births for which number of prenatal visits and month care began were reported on the birth certificate.  
Residence data.

Number and Percent of Live Births by Birth Weight  
By Adequacy of Prenatal Care Utilization (APNCU) Index  
Kansas, 2002

Birth Weight (Grams)	Live Births*	APNCU Category								Not Stated
		Adequate Plus		Adequate		Intermediate		Inadequate		
		Number	Percent	Number	Percent	Number	Percent	Number	Percent	
Total.....	38,806	9,753	25.1	21,463	55.3	4,218	10.9	3,372	8.7	532
Under 2,500(Low).....	2,689	1,596	59.4	687	25.5	144	5.4	262	9.7	69
2,500-4,499(Normal).. <td>35,592</td> <td>8,051</td> <td>22.6</td> <td>20,462</td> <td>58.3</td> <td>4,009</td> <td>11.3</td> <td>3,070</td> <td>8.6</td> <td>460</td>	35,592	8,051	22.6	20,462	58.3	4,009	11.3	3,070	8.6	460
4,500 and Over(High).. <td>522</td> <td>106</td> <td>20.3</td> <td>314</td> <td>60.2</td> <td>65</td> <td>12.5</td> <td>37</td> <td>7.1</td> <td>3</td>	522	106	20.3	314	60.2	65	12.5	37	7.1	3
Not Stated.....	3	0	n/a	0	n/a	0	n/a	3	n/a	0

n/a Not applicable

\*Includes only Kansas resident live births for which number of prenatal visits and month care began were reported on the birth certificate.  
Residence data.

Source: Center for Health & Environmental Statistics  
Kansas Department of Health and Environment



Number and Percent of Live Births by Race and Hispanic Origin  
By Adequacy of Prenatal Care Utilization (APNCU) Index  
Kansas, 2002

Race and Hispanic Origin	Live Births*	APNCU Category								Not Stated
		Adequate Plus		Adequate		Intermediate		Inadequate		
		Number	Percent	Number	Percent	Number	Percent	Number	Percent	
Total.....	38,806	9,753	25.1	21,463	55.3	4,218	10.9	3,372	8.7	532
White.....	34,286	8,769	25.6	19,128	55.8	3,615	10.5	2,774	8.1	454
Black.....	2,828	628	22.2	1,402	49.6	402	14.2	396	14.0	44
American Indian.....	436	94	21.6	219	50.2	53	12.2	70	16.1	7
Asian/Pacific Islander.....	1,147	240	20.9	665	58.0	130	11.3	112	9.8	16
Other NonWhite.....	43	10	23.3	19	44.2	7	16.3	7	16.3	3
Not Stated.....	66	12	n/a	30	n/a	11	n/a	13	n/a	8
Hispanic**.....	4,864	860	17.7	2,242	46.1	805	16.6	957	19.7	142

n/a Not applicable

\*Includes only Kansas resident live births for which number of prenatal visits and month care began were reported on the birth certificate.

\*\*Hispanic origin can be of any race  
Residence data.

Source: Center for Health & Environmental Statistics  
Kansas Department of Health and Environment